Table of Contents

- **Introduction……1**
- **Features……2**
- **Packing Checklist……3**
- **Product Description……4**
- **Installation……5**
  - **Connection Patterns……6**
- **LED Indicators……8**
- **Push-Button Control……10**
- **Video Adjustment……13**
  - **Video Adjustment Configuration……14**
- **Hotkey Control……18**
  - **Hotkey Commands……19**
- **Alternative Hotkey Control……23**
- **Cascade Configuration……24**
  - **Mask Hotkey Switch……26**
- **Appendices……27**
  - **Cable Requirements……27**
  - **Troubleshooting……28**
- **Specifications……29**

Please read this manual thoroughly and follow the **Installation** procedures to prevent any damage to the unit or any connecting device

* *The final specifications are based on the actual product.*
* *Features and functions may be added or changed after the manual was written. Please visit our website to download the latest version of manual for reference.*
* *T0 prevent damages to your installation, it is important that all devices are properly grounded.*

RoHS

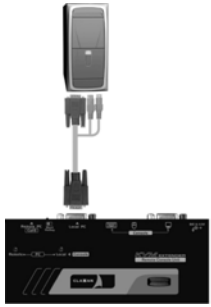
---------- *Introduction*

Claxan KVM Extender (CL-KVM-EXC-2021Z and CL-KVM-EXC-3022Z) consists of a **Console Unit** and a **Computer Unit** allowing you to extend the keyboard-monitor-mouse console up to **300 meters** away from a source computer or **KVM Switch** by using an inexpensive **Category 5 / 5e / 6 UTP** (unshielded twisted pair) **cable**. The **Extender** supports high video resolution up to **Full HD (1920 x 1080) / WUXGA (1920 x 1200) / UXGA (1600 x 1200) / 1920 x 1440**. Through the easy hotkey commands, you can conveniently adjust the video quality to compensate the cable lengths and synchronize the optimal video resolution between the attached computers, such as equalizer (sharpness), gain (brightness), and zero the skew delay for green, blue, and red. It is economical and scalable design for growth-oriented enterprises, which you can easily expand the multiple computer controls by adding additional **Extender**(s) or cascading the **Extender**(s) with **KVM Switch**(es) whenever you need.

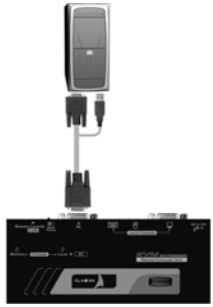
The dedicated **Hotkey Mask** feature eliminates all the hotkey control barriers caused by mixed combinations of **KVM Switch**(es) in cascading environments. The **Extender** can mask up itself through the hotkey mask, enabling you to bypass the cascaded **Extender** level and directly configure the cascaded **KVM Switch** by using the keyboard/mouse that connect to the **Extender Unit**, as if you were virtually sitting in front of the **KVM Switch**.

The interface compatibility and flexibility can be simply enhanced by choosing custom-made KVM 1-to-3 (PS/2 interface) or 1-to-2 (USB interface) cable(s) for your existing USB or PS/2 computer(s), no software or DIP switches are required. It provides advanced features including dual-user access, LED indicators for real-time status monitoring, and control multiple computers by cascading **KVM Switch**(es), easy computer access through push button, hotkeys, and mask hotkeys. With the small footprint, the **Extender** can be easily installed and deliver the high definition signal over long distance, which is a perfect solution for factories or construction areas where you want to secure your computers and valuable data or manage them both in remote and local sites.

The **Extender Unit** can be connected with 1-to-3 or 1-to-2 cable(s) as the following figure shown. For details, please proceed to the section "**Specifications**".



1-to-3 cable (PS/2) connection



1-to-2 cable (USB) connection

---------- *Features*

- Connect the KVM Extender pair via Category 5 / 5e / 6 UTP cable
- Remotely locate the keyboard, mouse and monitor up to 300 meters away from a computer
- Support high video resolution up to Full HD (1920 x 1080) / WUXGA (1920 x 1200) / UXGA (1600 x 1200) / 1920 x 1440
- Support USB console
- Support the surge protection
- Support the HID standard keys
- Equalizer (sharpness) / gain (brightness) / RGB skew adjustment via hotkeys for optimal video quality
- Synchronize the video resolution between the attached computers via hotkeys
- Easily expand the multiple computer controls by cascading KVM Switch(es)
- Hotkey functions and push button for easy computer access
- Dedicated Mask Hotkey function simplify hotkey control in cascading environment
- Compatible with all PS/2 or USB computers by using 1-to-3 (PS/2 interface) or 1-to-2 (USB interface) KVM cable(s)
- Simple LED indication makes operation user-friendly
- Locate the computer away from your desk and work area, saving you valuable space
- Allow two users to share one or two computers locally and remotely
- Beep confirmation for hotkey control makes the operation easier and cross-checked
- Support most of mice such as M/S IntelliMouse (Pro), Explorer, Optical, etc.
- Compatible with most of the popular screen resolution to XGA, SXGA, UXGA, WSXGA,WUXGA ….QWXGA system

---------- *Packing Checklist*

1. KVM Extender **Console Unit** x 1
2. KVM Extender **Computer Unit** x 1
3. Power Adapter with necessary AC Cord
   or x 1
   Plug-in Power Adapter
4. User's Manual x 1
5. Foot Pad Set x 2
6. KVM Cable (CBM-180H or CBM-180UH) x 1 or 2 (option)

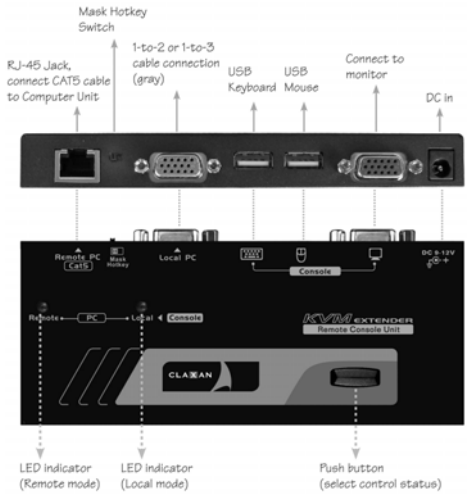
★Hardware Requirement

1. Computer(s) with USB port(s) and PS/2 port(s)
2. Category 5 / 5e / 6 UTP cable (EIA/TIA 568B industry standard compliant) in accordance with length limits for optimum signal integrity
3. USB keyboard / mouse for console controlling

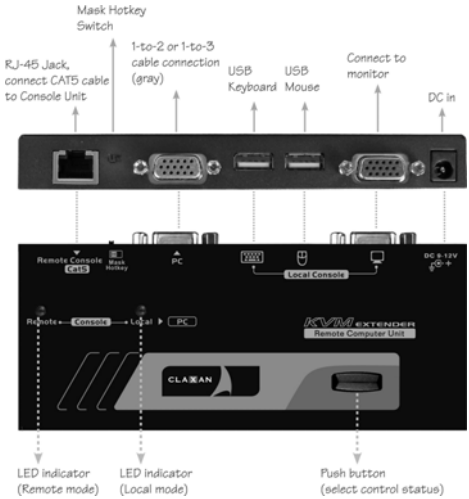
---------- *Product Description*

The following figures show typical applications of **Claxan KVM Extender**. The model you have purchased might be slightly different from those described in the illustrations without affecting the functions.

Console Unit CL-KVM-EXC-3022Z

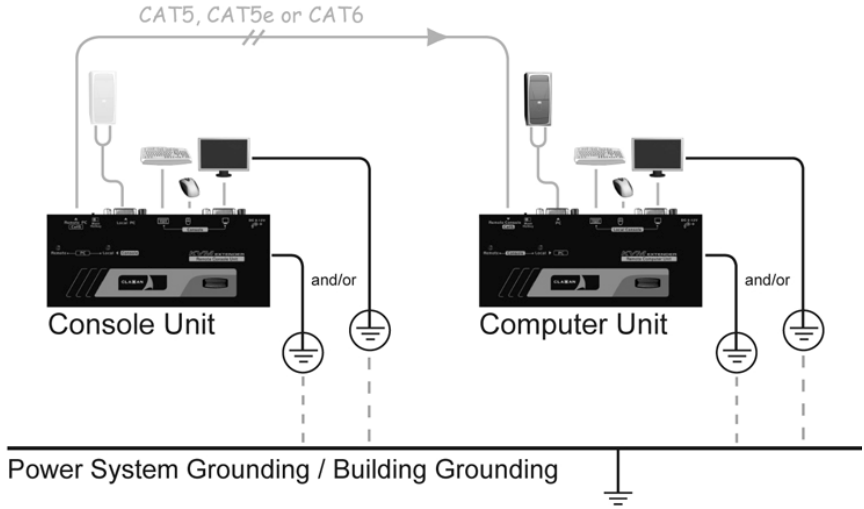


Computer Unit CL-KVM-EXC-3022Z



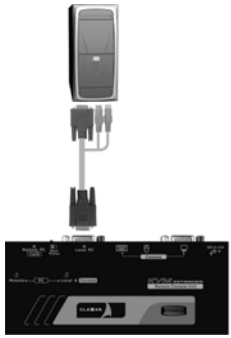
Grounding

To prevent any damage to the product or any connected device, it is important to make sure that both the monitor (and/or computer) connected to the **Unit** and the **KVM Extender** are properly grounded.

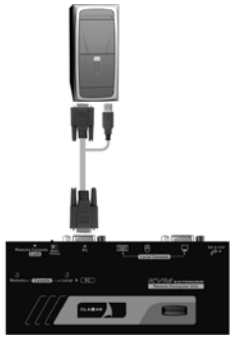


Cautions:

1. Prior to the installation, ensure that all devices to be connected to this system are powered off and grounded.
2. Place cables away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise.



1-to-3 cable (PS/2) connection



1-to-2 cable (USB) connection

Connection Patterns

The installation is as easy as dynamically connecting the computer to the **Computer Unit** and/or **Console Unit**, and connecting the **Console Unit** to the **Computer Unit** with the appropriate CAT5 cable. Please follow the guidelines below for the system connection.

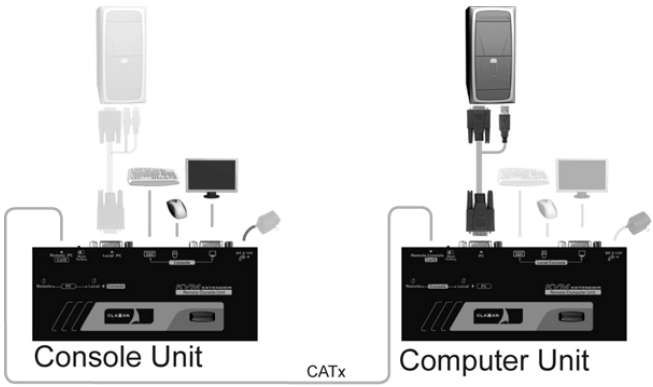
- Use KVM 1-to-3 (PS/2 interface) or 1-to-2 (USB interface) cable for the connection between the video port on the computer side of the **Unit** and the video output port & KB/MS port of the connected **Computer**.
- Use Video cable for the connection between the video port on the console side of the **Unit** and the video input port of the connected monitor.
- Plug a USB keyboard and a USB mouse into the respective icon marked USB ports on the console side of the **Unit**.
- Connect the CAT5 cable to RJ45 port on the **Console Unit,** connect the opposite end to a terminated wall outlet (if using premises cabling), or directly to RJ45 on the **Computer Unit**.

Power Connection

- In non-cascade structure, **Computer Unit** consumes negligible power and draws only the necessary power from the connected computer.

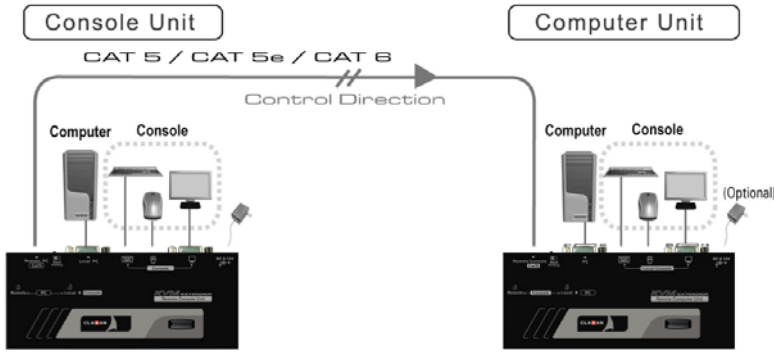
  In cascade structure, **Computer Unit** cascaded to **KVM Switch** requires sufficient power supply by connecting an appropriate power cord into an appropriate power source and plugging the opposite end into the power connector on the **Computer Unit**.

- After all device connections are completed, connect the provided power cord into an appropriate power source and plug the opposite end into the power connector on the **Console Unit** to power up the system.



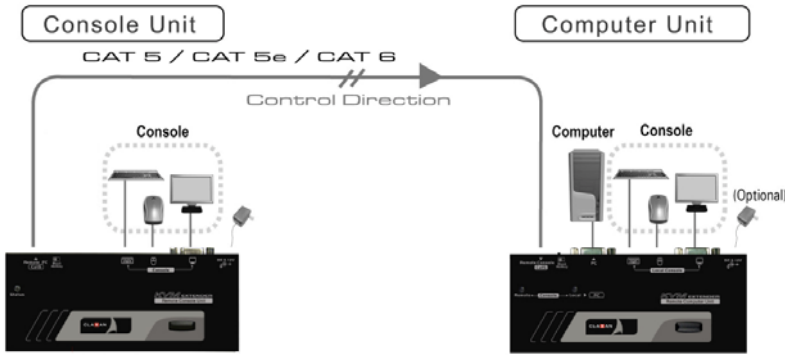
CL-KVM-EXC-3022Z

2 Consoles → 2 Computers



CL-KVM-EXC-2021Z

2 Consoles → 1 Computer



---------- *LED Indicators*

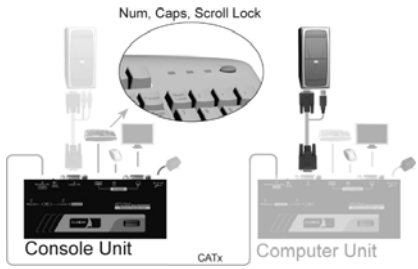
The LEDs on the **KVM Extender** show the real-time status indicating the linking, communication, and control between the **Computer Unit** and **Console Unit**. Users can switch control through the push-button and identify the present status through the LED indicator on the top panel as the following lists:

1. Press the push-button on **Console Unit** to select “Local On” or “Remote On”.
2. Press the push-button on **Computer Unit** to select “Local On”, “Remote On” or “Auto Mode”.

LEDs on Console Unit

Model	LED Status	Control Description
CL-KVM-EXC-3022Z	Remote:Off, Local: On*	● **Console Unit** controls its local PC.
	Remote: On, Local: Off	**Console Unit** is enabled to access to the **Computer Unit** and the remote LED will: ● Emit yellow light if the **Console Unit** is taking control. ● Emit yellow light with a bit of flash red if the **Computer Unit** is taking control. Users can easily identify this status from the keyboard, in which 3 LEDs (Num, Caps and Scroll Lock) on the keyboard should be flashing. ● Emit yellow light if the **Computer Unit** is on Auto mode (the system is waiting for **Console Unit** or **Computer Unit** to take control). Users can easily identify this status from the keyboard, in which 3 LEDs (Num, Caps and Scroll Lock) on the keyboard are **NOT** flashing.
CL-KVM-EXC-2021Z	Remote: On	● The **Console Unit** remotely controls the **Computer Unit**

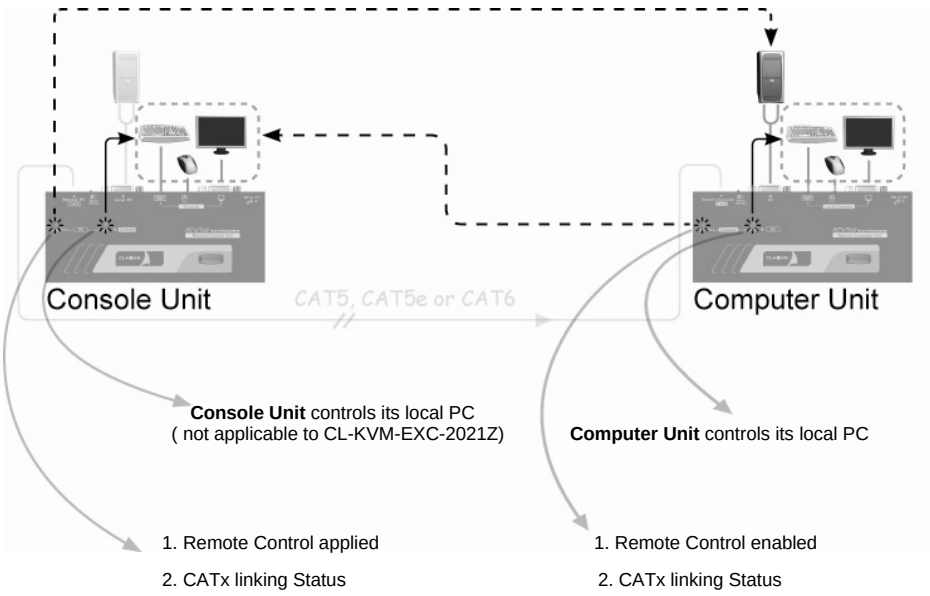
- The default status is set to Local “ON” when the Console Unit powers on
- The Remote LED will flash long red light if the CATx cable disconnected



LEDs on Computer Unit

Model	LED Status	Control Description
CL-KVM-EXC-3022Z **CL-KVM-EXC-2021Z**	Remote:Off, Local: On	● **Computer Unit** controls its local PC (or cascaded **KVM Switches**）. In this mode, the **Console Unit** can not take control of the **Computer Unit** remotely.
	Remote:On, Local: Off	● **Console Unit** can remotely taking control of the **Computer Unit**.
	Remote / Local Flashes alternately (Auto Mode)	● The system is waiting for **Console Unit** or **Computer Unit** to take control. The control priority is on the first come, first served basis

- The default status is set to Auto when the Computer Unit powers on
- The Remote LED will flash red light if the CATx cable disconnected


Console Unit
CAT5, CAT5e or CAT6
Computer Unit
Console Unit controls its local PC
(not applicable to CL-KVM-EXC-2021Z)
Computer Unit controls its local PC
1. Remote Control applied
2. CATx linking Status
1. Remote Control enabled
2. CATx linking Status

---------- *Push-Button Control*

A push button on the respective top panel of **Computer Unit** and **Console Uni**t can be used to select the control mode as follows:

Push-Button on Console Unit **(not applicable to CL-KVM-EXC-2021Z)**

The button on the top panel of **Console Unit** can be used to switch mode between Local and Remote in the sequence as the diagram shown below:

Local On → Remote On

Local On : The LED "Local" lights up, the system controls its local computer.

Remote On : The LED "Remote" lights up, the system remotely controls the **Computer Unit**.

Push-Button on Computer Unit

The button on the top panel of **Computer Unit** can be used to switch mode among Local, Remote, and Auto in the sequence as the diagram shown below:

Auto → Local On → Remote On

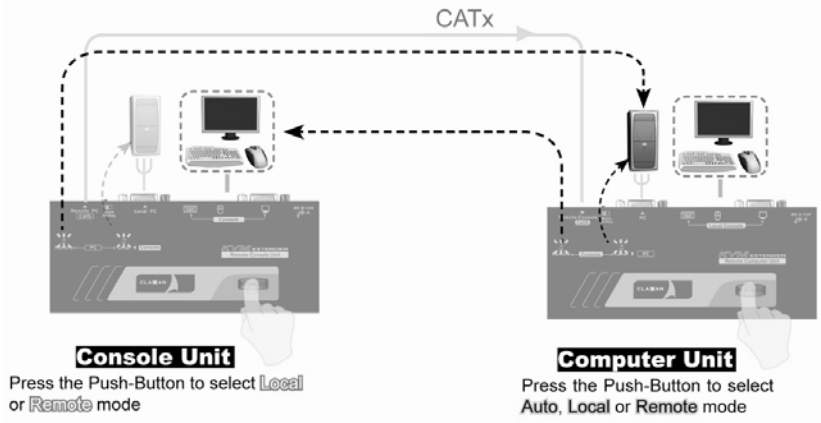
Auto : The LEDs "Remote" and "Local" flash alternately, the system is now waiting for the **Console** or **Computer Unit** to take control. The control priority is on the first come, first served basis.
For example, once the keyboard or mouse attached to the **Computer Unit** is active, the LED "Local" will light up and the LED "Remote" will light off. This status indicates that the **Computer Unit** is now taking control of the system, and vice versa for **Console Unit**.
In Auto mode, the duration of latch time for taking control can be preset to 5, 15, 30, or 60 seconds via hotkeys, which allows the **Computer** or **Console Unit** to resume control again via any keystroke or mouse activity if the latch time is due and the status returns to the "**Auto**" mode.

In "**Auto**" mode, whenever, any activity from the ***keyboard***, ***mouse buttons*** or ***mouse scroll wheel*** is detected, the Unit (**Computer Unit** or **Console Unit**) immediately takes control of the system.

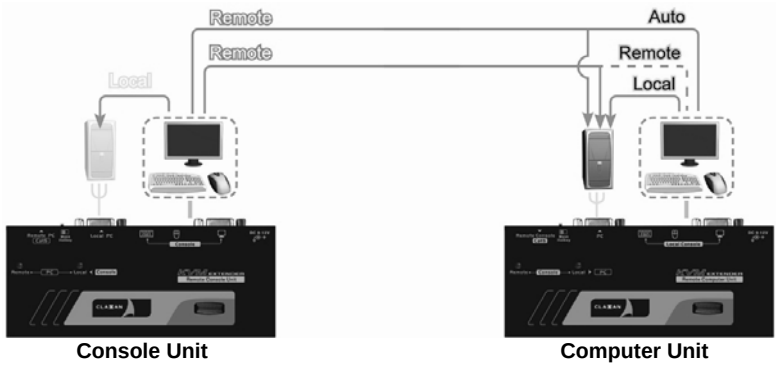
Local On : The LED "Local" lights up, the system is controlled by the **Computer Unit.** In this case, users at **Console Unit** can identify this status from the 3 LEDs (**Num**, **Caps** and **Scroll Lock**) flashing on the keyboard attached to the **Console Unit**.

Remote On : The LED "Remote" lights up, the system can be remotely controlled by the **Console Unit**.

The following figure indicates the control flow in which the control through Push-Button on the top panel.


CATx
Console Unit
Press the Push-Button to select Local or Remote mode
Computer Unit
Press the Push-Button to select Auto, Local or Remote mode

(not applicable to CL-KVM-EXC-2021Z)



Push-Button for Alternative Hotkey Control

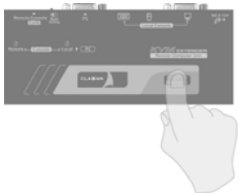
The **KVM Extender** is incapable of conducting any hotkey controls when its hotkey function is masked (Hotkey Mask Switch "ON"). No matter whether the Hotkey Mask Switch is set to ON or OFF, the alternative hotkey, Press and Hold the push-button 2 seconds followed by one keystroke, can be applied instead of the leading code **[Ctrl + Ctrl]** or **[Ctrl + Ctrl + E]** for the following settings.

Alternative Hotkey Control at Computer Unit:

- **Latch Time Selection**
  Select the duration of Latch Time: 5, 15, 30, or 60 seconds.
  [BTN](2sec.) + F3
- **Privacy Setting Enable**
  Configure the **Computer Unit** Video Signal
  [BTN](2sec.) + F6
- **Mouse Resynchronization**
  Mouse resynchronized for PS/2 model
  [BTN](2sec.) + F12
- **Video Synchronization**
  Synchronize video resolution between the **Console Unit** and **Computer Unit**
  [BTN](2sec.) + v + 4-digit code

Alternative Hotkey Control at Console Unit:

- **Video Adjustment**
  Video quality setting
  [BTN](2sec.) + F11
- **Mouse Resynchronization**
  Mouse resynchronized for PS/2 model
  [BTN](2sec.) + F12
- **Video Synchronization**
  Synchronize video resolution between the **Console Unit** and **Computer Unit**
  [BTN](2sec.) + v + 4-digit code



NOTE: [BTN] (2sec.) denotes that Press and Hold push button 2 seconds.

---------- *Video Adjustment* ***(Console Unit Only)***

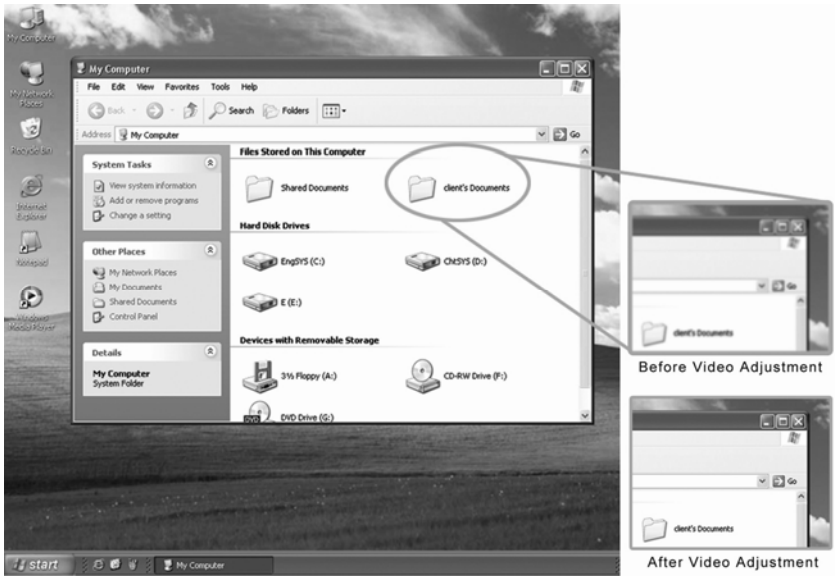
The video adjustment function is required to perform before configurations begin. Please also make sure that all the system units and devices are connected properly before the video adjustment operation begin. Users at the **Console Unit** can adjust the video signal compensating to various cable length through hotkey commands. The video adjustment includes:

- Equalizer (Sharpness)
- Gain (Brightness)
- Skew (for the color green, blue, and red)

To compensate the lengths of CAT 5 / CAT 5e / CAT 6 cable, there 16 levels on coarse tune and up to 128/256 scales on fine tune are available for adjustment on the equalizer and gain. And, there 8 levels on coarse tune and 16/32 scales on fine tune are available for skew adjustment on green, blue, and red. To achieve the best video signal quality and details of video adjustment, please refer to the following section "**Hotkeys for Video Adjustment**".

***NOTE**: **The video adjustment is available on the Console Unit ONLY.**

NOTE: **The video adjustment is applicable only if the CATx cable is connected and the Console Unit is remotely taking control of Computer Unit.**



Video Adjustment Configuration **(for Console Unit Only)**

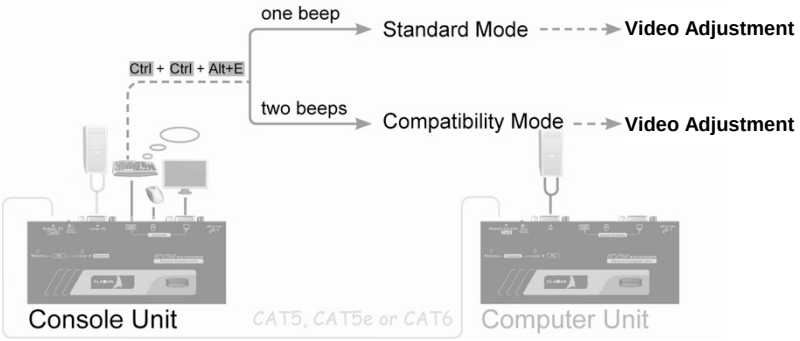
Users can activate video adjustment on **Console Unit** either through *hotkeys* or *push button*. The **Unit** is capable of hotkey control when the Mask Hotkey is **OFF**.

- **Video Adjustment through hotkey:**
  Users can pre-set the hotkey to either Standard Mode or Compatibility Mode

  Standard Mode is defined as the state of the KVM Extender without additional connection to any KVM Switch(es). By input the hotkey command [*left* **Ctrl** + *left* **Ctrl** + **Alt + E**] and then *one beep* should be generated as the Standard Mode confirmation.

  Compatibility Mode is defined as the state of the KVM Extender with connection to KVM Switch(es). By input the hotkey command [*left* **Ctrl** + *left* **Ctrl** + **Alt + E**] and then *two beeps* should be generated as the Compatibility Mode confirmation.

  The **Alt + E** hotkey command is used for the system to distinguish between the two modes, and prevent from confusions on receiving commands. Users can switch the mode alternately by repeating this hotkey command. (**Alt + E** : hold **Alt** down and press **E** key)



Activate Video Adjustment on Standard Mode (Non-Cascade Structure)
Adjust Video Quality in Non-Cascade Structure:

[Press *left* **Ctrl** + *left* **Ctrl** + **F11**]

Activate Video Adjustment on Compatibility Mode (Cascade Structure)
Adjust Video Quality in Cascade Structure:

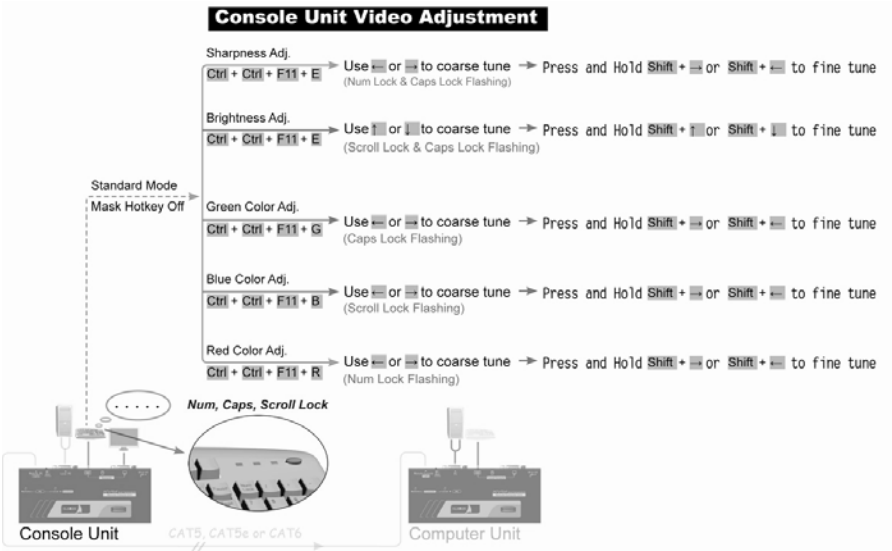
[Press *left* **Ctrl** + *left* **Ctrl** + **E** + **F11**]

While the Video Adjustment is activated, the LED **Numeric Lock** and **Scroll Lock** on the keyboard connected to the **Console Unit** will flash simultaneously at the moment. Then, users can perform the video adjustment by hotkey commands as the table shown below.

Be aware, the idle time-out is 30 seconds. That is, it will automatically escape from video adjustment status if no activity is detected by the keyboard within 30 seconds.
To exit the video adjustment status, three simply approaches are available:

1. No activity is detected by the keyboard for 30 seconds.
2. Push once the button **Esc** on the keyboard attached to the **Console Unit**.
3. Push once the push button on the top panel of the **Console Unit**

Console Unit Hotkey Commands	Function Description
E	***Equalizer / Gain Adjustment*** ● **Equalizer (Sharpness)**: (**Num Lock** LED + **Caps Lock** LED) Flashing 1. Press ← or → to coarse tune, there are 16 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune. ● **Gain (Brightness)**: (**Caps Lock** LED + **Scroll Lock** LED) Flashing 1. Press ↑ or ↓ to coarse tune, there are 16 levels for skew. 2. Press and Hold **Shift** + ↑ or ↓ to fine tune.
G	***Green Color Adjustment*** **Caps Lock** LED Flashing 1. Press ← or → to coarse tune, there are 8 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune.
B	***Blue Color Adjustment*** **Scroll Lock** LED Flashing 1. Press ← or → to coarse tune, there are 8 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune.
R	***Red Color Adjustment*** **Num Lock** LED Flashing 1. Press ← or → to coarse tune, there are 8 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune.
ESC	Escape from Video Adjustment Mode.


Console Unit Video Adjustment
Sharpness Adj.
Ctrl + Ctrl + F11 + E
Use ← or → to coarse tune
(Num Lock & Caps Lock Flashing)
Press and Hold Shift + → or Shift + ← to fine tune
Brightness Adj.
Ctrl + Ctrl + F11 + E
Use ↑ or ↓ to coarse tune
(Scroll Lock & Caps Lock Flashing)
Press and Hold Shift + ↑ or Shift + ↓ to fine tune
Standard Mode
Mask Hotkey Off
Green Color Adj.
Ctrl + Ctrl + F11 + G
Use ← or → to coarse tune
(Caps Lock Flashing)
Press and Hold Shift + → or Shift + ← to fine tune
Blue Color Adj.
Ctrl + Ctrl + F11 + B
Use ← or → to coarse tune
(Scroll Lock Flashing)
Press and Hold Shift + → or Shift + ← to fine tune
Red Color Adj.
Ctrl + Ctrl + F11 + R
Use ← or → to coarse tune
(Num Lock Flashing)
Press and Hold Shift + → or Shift + ← to fine tune
Num, Caps, Scroll Lock
Console Unit
CAT5, CAT5e or CAT6
Computer Unit

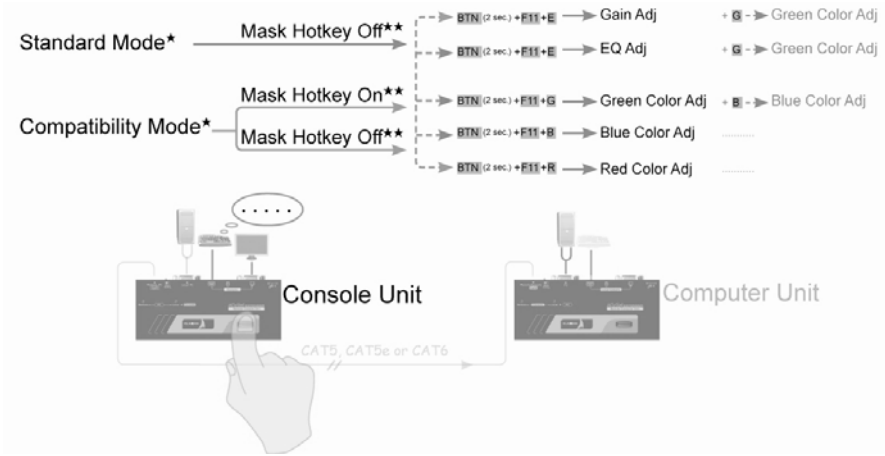
- **Video Adjustment through Push Button:**

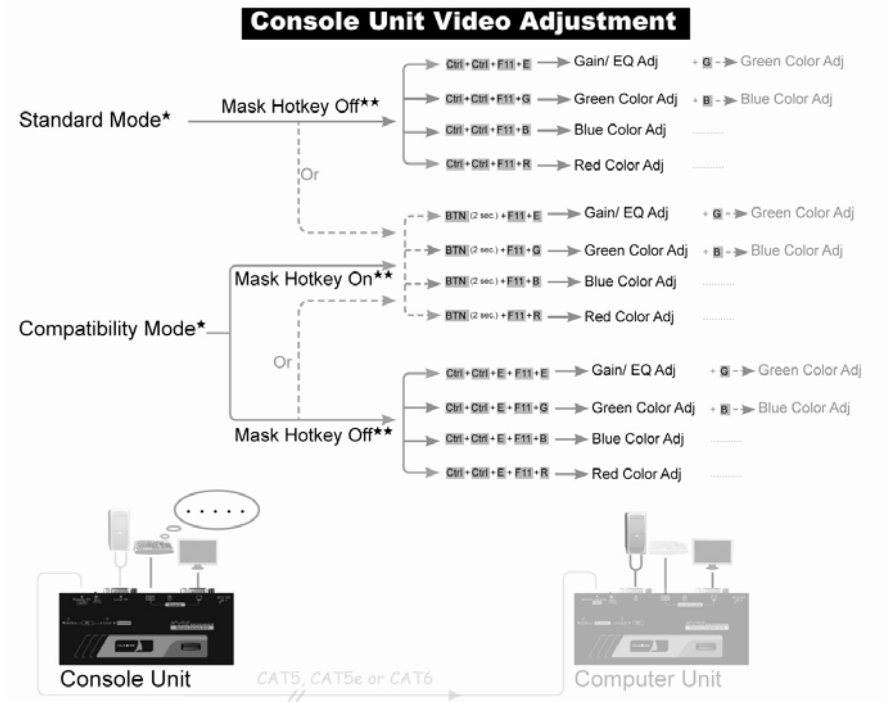
  No matter whether the Mask Hotkey Switch is set to **ON** or **OFF**, users can directly Press and Hold the push button on the top panel for two seconds instead of the leading code **[Ctrl + Ctrl]** or **[Ctrl + Ctrl + E]** for Video Adjustment activation as the follows.

  Activate the Video Adjustment

  Press & Hold push button 2 Sec. + F11

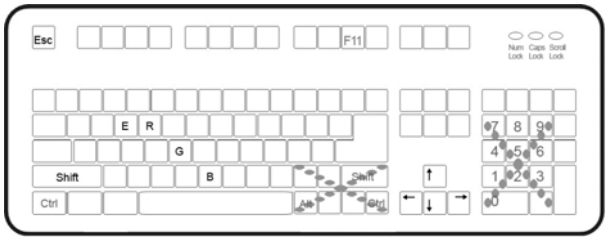
  Refer to the preceding table “Video Adjustment” for further video adjustment configurations.




Console Unit Video Adjustment
Standard Mode*
Mask Hotkey Off**
Ctrl + Ctrl + F11 + E
Gain/ EQ Adj
+ G - Green Color Adj
Ctrl + Ctrl + F11 + G
Green Color Adj
+ B - Blue Color Adj
Ctrl + Ctrl + F11 + B
Blue Color Adj
Ctrl + Ctrl + F11 + R
Red Color Adj
Or
Compatibility Mode*
Mask Hotkey On**
BTN (2 sec.) + F11 + E
Gain/ EQ Adj
+ G - Green Color Adj
BTN (2 sec.) + F11 + G
Green Color Adj
+ B - Blue Color Adj
BTN (2 sec.) + F11 + B
Blue Color Adj
BTN (2 sec.) + F11 + R
Red Color Adj
Or
Mask Hotkey Off**
Ctrl + Ctrl + E + F11 + E
Gain/ EQ Adj
+ G - Green Color Adj
Ctrl + Ctrl + E + F11 + G
Green Color Adj
+ B - Blue Color Adj
Ctrl + Ctrl + E + F11 + B
Blue Color Adj
Ctrl + Ctrl + E + F11 + R
Red Color Adj
Console Unit
CAT5, CAT5e or CAT6
Computer Unit

★ Two modes are available for hotkey control. (see Hotkey Control chapter)

★★Mask Hotkey function enable the direct control over the KVM Switch. (see Mask Hotkey Switch chapter)



1. Make sure to connect the **Unit** and devices properly before the video adjustment
2. The video adjustment function is available on the **Console Unit** ONLY.
3. An alternative hotkey to enter Video Adjustment mode is available for users, in which, users can simply press the push button on the top panel followed by input the key **F11**. For more detailed information, please refer to the section "**Hotkey Commands**" and "**Alternative Hotkey Control**".

----------Hotkey Control

A hotkey command is a short key sequence to select a computer, activate computer scan, and so forth. The **KVM Extender** interprets keystrokes for hotkeys all the time. Throughout this user manual, the following terms are used to identify the common states during hotkey configurations:

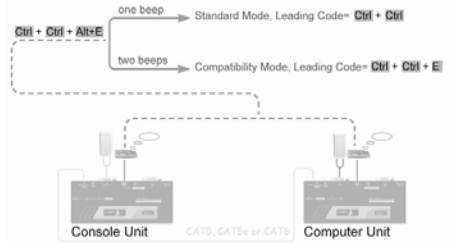
Standard Mode
The state of the **KVM Extender** without any connections to any **KVM Switch(es)**.

Compatibility Mode
The state of the **KVM Extender** with connection(s) to **KVM Switch(es)**.

The Command for Switching Modes
Users can switch mode between Standard and Compatibility through inputting the hotkey command [*left* **Ctrl** + *left* **Ctrl** + **Alt + E**], and then one beep is generated as the confirmation of Standard Mode; otherwise, two beeps is generated as the confirmation of Compatibility Mode. (**Alt + E** : hold **Alt** down and press **E** key)

Leading Code
In *Standard Mode*, the hotkey command start with the leading code
[*left* **Ctrl** + *left* **Ctrl**] followed by one or two more keystrokes.
In *Compatibility Mode*, the hotkey command start with the leading code
[*left* **Ctrl** + *left* **Ctrl** + **E**] followed by one or two more keystrokes.

The built-in buzzer generates a high-pitched beep for correct hotkey command, otherwise, one short and one long beep are generated for a bad command, in which, the bad key command won't be sent to the extender unit or the selected computer.


one beep
Standard Mode, Leading Code= Ctrl + Ctrl
Ctrl + Ctrl + Alt+E
two beeps
Compatibility Mode, Leading Code= Ctrl + Ctrl + E
Console Unit
CAT5, CAT5e or CAT6
Computer Unit

Mask Hotkey Switch
The hotkey commands of **KVM Switches** vary among models, which may cause hotkey errors, unwanted configurations between the **Extender Unit** and mixed types of **KVM Switches** that connect to each other. The Mask Hotkey extremely simplifies the hotkey control in cascade architecture; through the mask ON, users can bypass the **Extender Unit** and directly apply the **KVM Switch** built-in hotkey commands to access and configure the cascaded computer(s) / **KVM Switch(es)**. More details about this feature can be found in the following section "Mask Hotkey Switch".

Alternative Hotkey
Press and Hold push button two seconds followed by one keystroke can be applied instead of the leading code [*left* **Ctrl** + *left* **Ctrl**] or [*left* **Ctrl** + *left* **Ctrl** + **E**]. The **KVM Extender** is incapable of conducting any hotkey controls when its hotkey function is masked (Hotkey Mask Switch "ON"), hence this alternative hotkey is especially useful in this state. For the details of hotkey commands, please check the following sections "Hotkey Commands" and "Alternative Hotkey Control".

Hotkey Commands

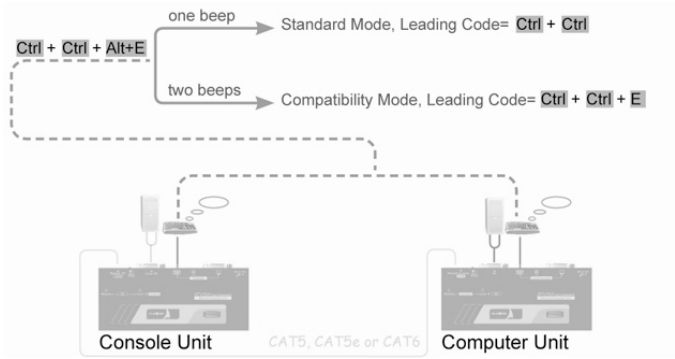
- Prior to any hotkey command input, please enable either of two modes as the following:
  Standard Mode by input the hotkey command [*left* **Ctrl** **+** *left* **Ctrl** **+** **Alt + E**] and then *one beep* should be generated as the confirmation.
  Compatibility Mode by input the hotkey command [*left* **Ctrl** **+** *left* **Ctrl** **+** **Alt + E**] and then *two beeps* should be generated as the confirmation; or
  Users can switch the mode alternately by repeating this hotkey command.
- Only the key **Ctrl** located on the *lower-left corner* of the keyboard is eligible for hotkey commands.
- The hotkey command will be *automatically time-out,* if there is no activity detected by the keyboard *within 3 seconds* after the leading code input.
- When the mask hotkey switch is set to "ON", the **Extender Unit** masks up itself in this state, users can sit in front of the **Extender** and directly apply the **KVM Switch** built-in hotkey commands to configure the computers that attached to the **KVM Switch** as if the user was virtually sitting in front of the **KVM Switch**.

Console Unit Hotkey Commands				**Function Description**
Mask Hotkey: OFF		**Mask Hotkey: ON**		
Hotkey	**Alternative Hotkey**	**Hotkey**	**Alternative Hotkey**	
Ctrl + **Ctrl** +**Alt+E**	N/A	N/A	N/A	***Cascading status selection*** One beep: enable **Standard Mode** Two beeps: enable **Compatibility Mode**, and the user at **Console Unit** accessing to the **KVM switch** that is connecting to **Computer Unit**.
Ctrl + **Ctrl** +**Esc**	N/A	N/A	N/A	***Escape from hotkey mode***
Ctrl + **Ctrl**+ **T**	N/A	N/A	N/A	***Mode selection in Sequence*** switch console control between Local Computer and Remote Computer
[Leading Code]+F2	N/A	N/A	N/A	
[Leading Code]+ 1	N/A	N/A	N/A	***Local mode selection*** enable the user at **the Console Unit** accessing to the computer (KVM Switch) that connects to **the Console Unit**.
[Leading Code]+ 2	N/A	N/A	N/A	***Remote mode selection*** enable the user at the **Console Unit** exclusive accessing to computer (KVM Switch)that connects to the **Computer Unit**. (only if the **Computer Unit** is in Remote or Auto mode). Disable **Computer Unit** user accessing to the **Computer Unit** during this mode.
[Leading Code]+F11	**[BTN]+ F11** (2 Sec.)	N/A	**[BTN]+ F11** (2 Sec.)	***Video adjustment entrance*** More video quality setting can be found here.
[Leading Code]+F12	**[BTN]+F12** (2 Sec.)	N/A	**[BTN]+F12** (2 Sec.)	***Mouse resynchronized*** **(for PS/2 model only)**
[Leading Code]+ V +4 digit code	**[BTN]+ V +4-digit code** *(2 Sec.)*	N/A	**[BTN]+ V +4-digit code** *(2 Sec.)*	***Video synchronization*** Prevent the video resolution setting from exceeding the capability of the connected display (require CPU reboot); the following options for video resolution are available for selecting: Input 4-digit code with 1007 for resolution of 1024 x 0768 1210 for resolution of 1280 x 1024 1612 for resolution of 1600 x 1200 1409 for resolution of 1440 x 0900 : : : 1910 for resolution of 1920 x 1080 1912 for resolution of 1920 x 1200 1914 for resolution of 1920 x 1440 2011 for resolution of 2048 x 1152
Follow the KVM Switch User Manual (applicable in Compatibility Mode only)				***CPU port selection of KVM Switch***

NOTES

1. **Standard Mode** denotes the state of the **KVM Extender** without additional connection to any **KVM switch(es)**, and **Compatibility Mode** denotes the state of the **KVM Extender** with connection to **KVM Switch(es)**.

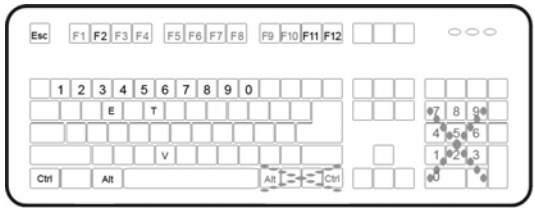
2. **[Leading Code]** denotes
   in Standard Mode, the hotkey sequence [*left* **Ctrl** **+** *left* **Ctrl**]
   in Compatibility Mode, the hotkey sequence [*left* **Ctrl** **+** *left* **Ctrl** **+** **E**]


one beep
Standard Mode, Leading Code= Ctrl + Ctrl
Ctrl + Ctrl + Alt+E
two beeps
Compatibility Mode, Leading Code= Ctrl + Ctrl + E
Console Unit
CAT5, CAT5e or CAT6
Computer Unit

3. **[BTN]** denotes Press and Hold the **Push Button** in the top panel for two seconds.
4. The hotkey state will be *automatically time-out,* if
   - There is no activity detected by the keyboard *within 6 seconds* after **Press and Hold** the Push Button two seconds.
   - Press the button **Esc** once to escape from the hotkey mode.
   - Press the Push Button once to escape from the hotkey mode and switch to either the Local or Remote mode.

By default, the Video setting on **Computer Unit** will follow the **Console Unit** setting after reboot. The following options for video resolution are available for selecting:

4 digits	Resolution	4 digits	Resolution
1007	1024x768	1612	1600x1200
1208	1280x800	1610	1680x1050
1210	1280x1024	1910	1920x1080
1307	1360x768	1912	1920x1200
1409	1440x900	1914	1920x1440
1410	1440x1050	2011	2048x1152
1609	1600x900		



Computer Unit Hotkey Commands				Function Description
Mask Hotkey: OFF		Mask Hotkey: ON		
Hotkey	Alternative Hotkey	Hotkey	Alternative Hotkey	
Ctrl + Ctrl + Alt+E	N/A	N/A	N/A	***Cascading status selection*** One beep: enable **Standard Mode** Two beeps: enable **Compatibility Mode**, and the users at **Computer Unit** accessing to the **KVM switch** that connects to the **Computer Unit**.
Ctrl + Ctrl +Esc	N/A	N/A	N/A	***Escape from hotkey mode***
Ctrl + Ctrl +T	N/A	N/A	N/A	***Mode selection in sequence*** Toggle switch to select Auto , Local On , or Remote On mode.
[Leading Code]+F2 (applicable in Standard Mode only)	N/A	N/A	N/A	
[Leading Code]+1	N/A	N/A	N/A	***Local mode selection*** enable the user at **Computer Unit** exclusive accessing to the PC (**KVM Switch)** that connects to **Computer Unit**. Disables the **Console Unit** user accessing.
[Leading Code]+2	N/A	N/A	N/A	***Remote mode selection*** enable the user at **Console Unit** exclusive accessing to the PC (**KVM Switch)** that connects to **Computer Unit**. Disables the user at the **Computer Unit** accessing to the connected **KVM Switch**.
[Leading Code]+3	N/A	N/A	N/A	Auto ***mode selection***
[Leading Code]+F3	[BTN]+ F3 (2 Sec.)	N/A	[BTN]+ F3 (2 Sec.)	***Latch time selection*** Auto mode latch time setting, the extender generates 1 to 4 beeps to indicate the duration of latch time: **5, 15, 30, 60** seconds respectively.
[Leading Code]+F6	[BTN]+ F6 (2 Sec.)	N/A	[BTN]+ F6 (2 Sec.)	***Privacy setting enable*** enable the **Computer Unit** stopVideo Signal
[Leading Code]+F12	[BTN]+ F12 (2 Sec.)	N/A	[BTN]+ F12 (2 Sec.)	***Mouse resynchronized*** **(for PS/2 model only)**
[Leading Code]+V+4-digit code	[BTN]+V+4-digit code (2 Sec.)	N/A	[BTN]+V+4-digit code (2 Sec.)	***Video synchronization*** Prevent the video resolution setting from exceeding the capability of the connected display (require CPU reboot); the following options of video resolution are available for selecting: Input 4-digit code with 1007 for resolution of 1024 x 0768 1210 for resolution of 1280 x 1024 1612 for resolution of 1600 x 1200 1409 for resolution of 1440 x 0900 : : : 1910 for resolution of 1920 x 1080 1912 for resolution of 1920 x 1200 1914 for resolution of 1920 x 1440 2011 for resolution of 2048 x 1152 (see the preceding page for the complete option list)
Follow the KVM Switch User Manual (applicable in Compatibility Mode only)				***CPU port selection of KVM Switch***

NOTES

1. **Standard Mode** denotes the state of the **KVM Extender** without additional connection to any **KVM switch(es)**, and **Compatibility Mode** denotes the state of the **KVM Extender** with connection to **KVM Switch(es)**.
2. **[Leading Code]** denotes
   in **Standard Mode**, the hotkey sequence [*left* **Ctrl** **+** *left* **Ctrl**]
   in **Compatibility Mode**, the hotkey sequence [*left* **Ctrl** **+** *left* **Ctrl** **+** **E**]

3. **[BTN]** denotes **Press and Hold** the **Push Button** on the top panel for two seconds

4. There are three ways to escape from hotkey state after **Press and Hold** the Push Button two seconds:
   - There is no activity detected by the keyboard *within 6 seconds*.
   - Press the button **Esc** once to escape from the hotkey state.
   - Press the Push Button once to escape from the hotkey state and switch to the Auto, Local or Remote mode.

5. **Privacy Setting Enable**:

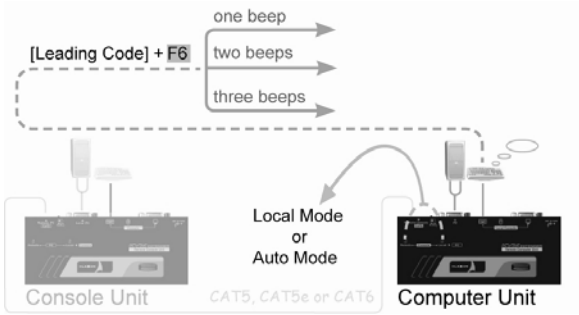
   Please identify the current mode (in either Local or Auto mode) by checking the **Computer Unit** LED first, then, through repeating the hotkey commands for privacy setting ([Leading Code]+**F6**), the **KVM Extender** generates 1 to 3 beeps to indicate the statuses of the **Computer Unit** as follows:

   A. **Computer Unit in Local mode**

   (Remote LED: Off, Local LED: On)
   - One beep: Reset to Factory Default
   - Two or three beeps: Disable the output video signal of **Computer Unit**.

   B. **Computer Unit in Auto mode**

   (Remote / Local LED flashes alternately)
   - One beep: Reset to Factory Default
   - Two beeps: By triggering keyboard / mouse, users can disable the output video signal of **Computer Unit** temporarily. (The **Computer Unit** users protect the privacy for 5, 15, 30, and 60 seconds. See the above table: ***Latch time selection*** for more descriptions)
   - Three beeps: By triggering keyboard / mouse, the **Console Unit** or **Computer Unit** users can disable the output video signal temporarily. (The users protect the privacy for 5, 15, 30, and 60 seconds as well)



----------*Alternative Hotkey Control*

No matter whether the mask hotkey switch is set to ON or OFF, users can Press and Hold the push button on the top panel for two seconds instead of the leading code **[Ctrl + Ctrl]** or **[Ctrl + Ctrl + E]** for some specific hotkey control as the follows.

Configuration on Console Unit

1. To enter the Video Adjustment Mode
   Press & Hold push button 2 Sec. **+** **F11**
   Please refer to the section “Video Adjustment” for further configurations.

2. To synchronize the video resolution between Console Unit and Computer Unit
   Press & Hold push button 2 Sec. **+** **V** **+** **4-digit code**
   Please refer to the section “Hotkey Control” for further configurations.

3. Mouse resynchronized (for PS/2 Model only)
   Press & Hold push button 2 Sec. **+** **F12**

Configuration on Computer Unit

1. To set the duration of latch time
   Press & Hold push button 2 Sec. **+** **F3**

2. To set the privacy
   Press & Hold push button 2 Sec. **+** **F6**

3. To synchronize the video resolution between Console Unit and Computer Unit
   Press & Hold push button 2 Sec. **+** **V** **+** **4-digit code**
   Please refer to the section “Hotkey Control” for further configurations.

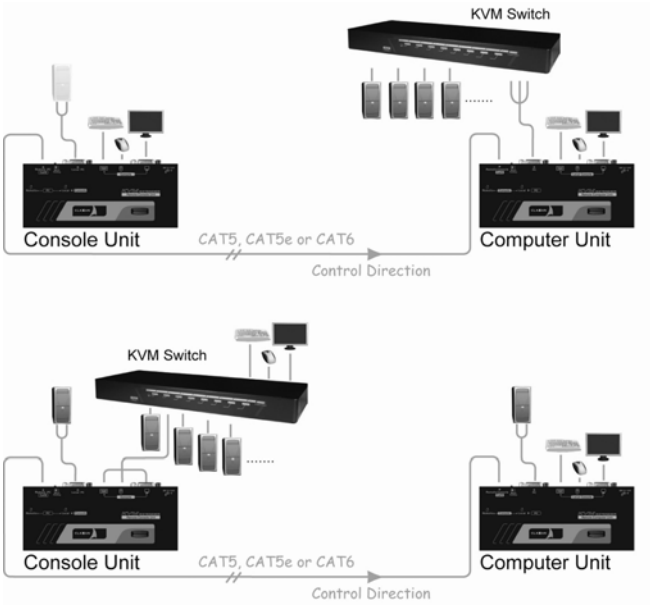
4. Mouse resynchronized (for PS/2 Model only)
   Press & Hold push button 2 Sec. **+** **F12**

----------*Cascade Configuration*

The **KVM Extender** can be connected to the console port on the **KVM Switch** in Cascade Configuration. However, to prevent from any conflict via hotkey commands among the connected units, the hotkey commands prefixed with Compatibility mode leading code [*left* **Ctrl** + *left* **Ctrl** + **E**] can be applied for directly accessing to the **KVM Extender**.

Even better than that, instead of adding an **E** key for hotkey control in compatibility mode, a shortcut through Hotkey Mask totally simplifies the cascade hotkey configuration.

The highly expandable cascade architecture allows easily adding additional servers / computers. Make sure the following statuses have been set up, before connecting the **KVM Switch** to the **Console** or **Computer Unit**,



Before the Cascade Connection

1. The external power source is required to supply enough power to the **Extender Unit** when connecting to the **KVM Switch**. Users can purchase optional power adapter from your local dealers.

2. To prevent from wrong keystrokes for Hotkey control to **Console Unit** on **KVM Extender**, the parameters such as the latch time and push button control should be set up before connecting to the **KVM switch**.

2. Enable Compatibility Mode by inputting the hotkey command [*left* **Ctrl** **+** *left* **Ctrl** **+ Alt + E**] and then *two beeps* should be generated as the confirmation. In the Compatibility Mode, set the control to (Local or Remote) by inputting the hotkey [*left* **Ctrl** **+** *left* **Ctrl** **+ T**].

   OR

   Set the Mask Hotkey Switch ON or OFF according to the cascade correlation algorithm and user preference. (If the **KVM Switch** is directly connected to **Computer Unit**, switch ON the Mask Hotkey on both Units. If the **KVM Switch** is directly connected **Console Unit**, switch ON the Mask Hotkey on **Console Unit**.)

Connect the **KVM Switch** to the **Console** or **Computer Unit** after above set up completed.

Mask Hotkey Switch

A Mask Hotkey Switch located at the rear panel of both **Console Unit** and **Computer Unit** can be slid ON/OFF to switch hotkey control between the cascaded **KVM Switch** / connected **Computer** accordingly. The factory default is set to "OFF".

Mask Hotkey Switch	In cascade architecture	In non-cascade architecture
"ON"	The **Extender Unit** masks up itself, as if users sit in front of the **KVM Switch** to directly configure the **computers** attached to the **KVM Switch** by applying the **KVM Switch** built-in hotkey commands.	The **Extender Unit** hotkey function is disabled.
"OFF"	The **Extender Unit** is mask off, users can configure the **computer** attached to the **KVM Switch** by applying the **KVM Extender** built-in hotkey command prefixed with the cascade leading code **[** ***left*** **Ctrl** **+** ***left*** **Ctrl** **+** **E** **]**.	Users can configure the **computer** attached to the **Extender Unit** by applying the **KVM Extender** built-in hotkey command prefixed with the non-cascade leading code **[** ***left*** **Ctrl** **+** ***left*** **Ctrl** **]**.

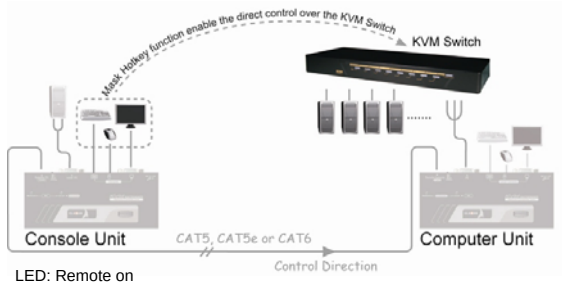
Example of Mask Hotkey set to "ON" in cascade architecture

An IT administrator is sitting in front of the **Console Unit**, he pre-set the **Console Unit** to **remote** mode for accessing to the **KVM Switch** that is attached to **Computer Unit**, then slide "**ON**" the Mask Hotkey Switch on the **Console Unit**, after that, he can on use the **Console Unit** directly configuring the computer that is attached to the **KVM Switch**. Please also refer to the section "Hotkey Commands" for more information.

OFF ON

Hotkey Mask Off Hotkey Mask Up

Make your hotkey controls more efficiently in the cascade structure, it is suggested that users to disable the Hotkey function of all of the cascaded Console and Computer Unit(s) by sliding the Hotkey Mask switch to "**ON**". Only the cascaded KVM Switch are capable of the hotkey function after this setting and users can directly perform the KVM Switch built-in hotkey commands accessing to the cascaded KVM Switch(es) / computers as needed.



LED: Remote on

Mask Hotkey: on

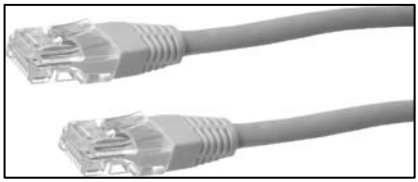
----------Appendices

Cable Requirements

The cable Category 5 (CAT5) terminated with RJ45 connectors is normally used for the interconnection between **Computer Unit** and **Console Unit**. It's easy to get from the local stores or call your dealers for help. Besides, CAT5e or CAT6 are applicable to the **KVM Extender**. This CAT5 cable is not provided in the standard package mainly because the cable length you required is subject to the deploying environment. However, the better the CATX cable quality, the longer the video extension, and the shorter the cable length, the higher the video resolution.

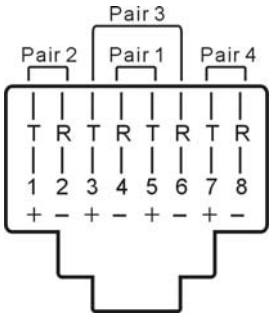
CAT5 Cable

The **KVM Extender** extends the remote access by using a piece of unshielded twisted pair (UTP) cable.



The cable must be wired in compliance with the EIA/TIA 568B industry standard

Note: *CAT5, CAT5e or CAT6 cables are applicable to the* ***KVM Extender*** *pair.*



Above diagram shows the RJ45 connector of a CAT5 cable with its metal contacts facing up.

Troubleshooting

If you encounter problems with the **KVM Extender** during the installation or operations, please check through this section for a possible solution. If your problem is not listed here and you can not resolve the issue, please contact your local dealer for the fastest assistances.

Symptom	Action
No video signal	♦ Verify that all the cables are qualified according to the hardware requirement section. ♦ Verify that all the cables are properly connected to their ports and are firmly seated. ♦ Use an alternative CATx cable connection between the unit of console and computer. ♦ Power down the computer. Connect the monitor directly to the computer and power up again. If the monitor does not operate correctly direct to the computer, try another monitor.
Poor video quality	♦ Use the EIA / TIA 568B industry standard CATx cable for **KVM Extender** connection. ♦ Unplug the CATx cable(s) from the **Extender**, then plug it / them back in. ♦ Perform the video quality adjustment for the length of CATx being used.
Keyboard hotkeys are inoperable when the **KVM Extender** connects with the **KVM Switch**	♦ Apply compatibility mode hotkey commands. ♦ Verify if the **Extender** has enough power.
Computer units are inoperable	♦ Verify if the units have enough power. If the power is insufficient for the needs, purchase a power adapter from your local dealers.
Problems continue to occur after checking the solutions above	♦ Remove and reinstall each device, checking the connectors and sockets for bent pins or other damage.

----------Specifications

<table>
<tr><th colspan="3">USB + PS/2 Model</th><th>CL-KVM-EXC-3022Z</th><th>CL-KVM-EXC-2021Z</th></tr>
<tr><td colspan="3">Maximum Video Resolution</td><td colspan="2">UXGA(1600 x 1200) / WUXGA(1920 x 1200) / QWXGA(2048 x 1152) / 1920 x 1440</td></tr>
<tr><td colspan="3">Extension Distance</td><td>300M</td><td>200M</td></tr>
<tr><td colspan="3">Connection</td><td colspan="2">CAT5-RJ45 female</td></tr>
<tr><td rowspan="5">Console Unit</td><td rowspan="2">Console Connectors</td><td>USB-A female</td><td colspan="2">2</td></tr>
<tr><td>HDB15 female</td><td colspan="2">1</td></tr>
<tr><td>Computer Connectors</td><td>HDB15 female</td><td>1</td><td>N/A</td></tr>
<tr><td rowspan="2">LED Indicators</td><td>Local</td><td>On: Controls local computer</td><td>N/A</td></tr>
<tr><td>Remote</td><td colspan="2">On: Controls system remotely</td></tr>
<tr><td rowspan="6">Computer Unit</td><td rowspan="2">Console Connectors</td><td>USB-A female</td><td colspan="2">2</td></tr>
<tr><td>HDB15 female</td><td colspan="2">1</td></tr>
<tr><td>Computer Connectors</td><td>HDB15 female</td><td colspan="2">1</td></tr>
<tr><td rowspan="3">LED Indicators</td><td>Local</td><td colspan="2">On: Controls local computer</td></tr>
<tr><td>Remote</td><td colspan="2">On: System is controlled remotely</td></tr>
<tr><td>Flash Alternately</td><td colspan="2">Auto mode</td></tr>
<tr><td rowspan="4">Video Adjustment</td><td colspan="2">Equalizer Tune* (Sharpness)</td><td colspan="2" rowspan="2">16 Levels (4-16 Scales)</td></tr>
<tr><td colspan="2">Gain Tune* (Brightness)</td></tr>
<tr><td rowspan="3">Skew</td><td>Red**</td><td colspan="2" rowspan="3">8 Level (2-8 Scales)</td></tr>
<tr><td>Green**</td></tr>
<tr><td>Blue**</td></tr>
<tr><td colspan="3">Push Button</td><td colspan="2">Control Status Switch</td></tr>
<tr><td colspan="3">Hotkey</td><td colspan="2">Yes</td></tr>
<tr><td colspan="3">Power Supply (Min)</td><td colspan="2">External power adapter DC9V, 600mA</td></tr>
<tr><td colspan="3">Weight (per pair)</td><td colspan="2">293g x 2</td></tr>
<tr><td colspan="3">Dimensions (W x D x H) (per pair)</td><td colspan="2">156 x 65 x 20(mm) x 2</td></tr>
</table>

* Each level contains 4~16 scales of fine tune that may differ from model to model

** Each level contains 2~8 scales of fine tune that may differ from model to model

Limited Warranty

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Console Unit Hotkey Control

Console Unit Hotkey Commands				Function Description
Mask Hotkey: OFF		Mask Hotkey: ON		
Hotkey	Alternative Hotkey	Hotkey	Alternative Hotkey	
Ctrl + Ctrl +Alt+E	N/A	N/A	N/A	***Cascading status selection*** One beep: enable **Standard Mode** Two beeps: enable **Compatibility Mode**, and the user at **Console Unit** accessing to the **KVM switch** that is connecting to **Computer Unit**.
[Leading Code]+Esc	N/A	N/A	N/A	***Escape from hotkey mode***
[Leading Code]+T	N/A	N/A	N/A	***Mode selection in Sequence*** switch console control between Local Computer and Remote Computer
[Leading Code]+F2	N/A	N/A	N/A	
[Leading Code]+1	N/A	N/A	N/A	***Local mode selection*** enable the user at **the Console Unit** accessing to the computer (KVM Switch) that connects to **the Console Unit**.
[Leading Code]+2	N/A	N/A	N/A	***Remote mode selection*** enable the user at the **Console Unit** exclusive accessing to computer (KVM Switch)that connects to the **Computer Unit**. (only if the **Computer Unit** is in Remote or Auto mode). Disable **Computer Unit** user accessing to the **Computer Unit** during this mode.
[Leading Code]+F11	[BTN]+ F11 (2 Sec.)	N/A	[BTN]+ F11 (2 Sec.)	***Video adjustment entrance*** More video quality setting can be found here.
[Leading Code]+F12	[BTN]+F12 (2 Sec.)	N/A	[BTN]+F12 (2 Sec.)	***Mouse resynchronized*** **(for PS/2 model only)**
[Leading Code]+V+4-digit code	[BTN]+V+4-digit code (2 Sec.)	N/A	[BTN]+V+4-digit code (2 Sec.)	***Video synchronization*** Prevent the video resolution setting from exceeding the capability of the connected display (require CPU reboot); the following options for video resolution are available for selecting: Input 4-digit code with 1007 for resolution of 1024 x 0768 1210 for resolution of 1280 x 1024 1612 for resolution of 1600 x 1200 1409 for resolution of 1440 x 0900 : 1910 for resolution of 1920 x 1080 1912 for resolution of 1920 x 1200 1914 for resolution of 1920 x 1440 2011 for resolution of 2048 x 1152
Follow the KVM Switch User Manual (applicable in Compatibility Mode only)				***CPU port selection of KVM Switch***

NOTES

1. **Standard Mode** denotes the state of the **KVM Extender** without additional connection to any **KVM switch(es)**, and **Compatibility Mode** denotes the state of the **KVM Extender** with connection to **KVM Switch(es)**.
2. **[Leading Code]** denotes: **in Standard Mode**, the hotkey sequence [*left* **Ctrl** + *left* **Ctrl**]
   in Compatibility Mode, the hotkey sequence [*left* **Ctrl** + *left* **Ctrl** + **E**]
3. **[BTN]** denotes Press and Hold the **Push Button** in the top panel for two seconds.
4. The hotkey state will be *automatically time-out*, if
   - There is no activity detected by the keyboard *within 6 seconds* after **Press and Hold** the Push Button two seconds.
   - Press the button **Esc** once to escape from the hotkey mode.
   - Press the Push Button once to escape from the hotkey mode and switch to either the Local or Remote mode.
5. By default, the Video Synchronization setting between the **Console Unit** and **Computer Unit** will follow the **Console Unit** setting after reboot. The following options for video resolution are available for selecting: Input 4-digit code with

   1007 for resolution of 1024 x 0768
   1210 for resolution of 1280 x 1024
   1612 for resolution of 1600 x 1200
   1914 for resolution of 1920 x 1440
   1307 for resolution of 1360 x 0768
   1409 for resolution of 1440 x 0900
   1410 for resolution of 1440 x 1050
   1610 for resolution of 1680 x 1050
   1910 for resolution of 1920 x 1080
   1912 for resolution of 1920 x 1200
   1208 for resolution of 1280 x 0800
   1609 for resolution of 1600 x 0900
   2011 for resolution of 2048 x 1152

Video Adjustment (for Console Unit Only)

To enter the Video Adjustment Mode in Non-Cascade (Standard) Structure:

[Press *left* **Ctrl** + *left* **Ctrl** + **F11**]

To enter the Video Adjustment Mode in Cascade (Compatibility) Structure:

[Press *left* **Ctrl** + *left* **Ctrl** + **E** + **F11**]

While entering this mode, the LED **Number Lock** and **Scroll Lock** are flashing simultaneously at the moment. Then, users can perform the video adjustment by hotkey commands as the table shown below. Be aware, the idle time-out is 30 seconds. That is, it will automatically escape from video adjustment mode if no action is detected by the keyboard within 30 seconds.

To exit the video adjustment mode, three simplified approaches are available:

1. No action is detected by the keyboard for 30 seconds.
2. Push once the escape button **Esc** on the keyboard attached to the **Console Unit**.
3. Push once the push button on the top panel of the **Console Unit**

Console Unit Hotkey Commands	Function Description
E	***Equalizer / Gain Adjustment*** ● **Equalizer (Sharpness)**: **(Num Lock LED + Caps Lock LED) Flashing** 1. Press ← or → to coarse tune, there are 16 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune. ● **Gain (Brightness)**: **(Caps Lock LED + Scroll Lock LED) Flashing** 1. Press ↑ or ↓ to coarse tune, there are 16 levels for skew. 2. Press and Hold **Shift** + ↑ or ↓ to fine tune.
G	***Green Color Adjustment*** **Caps Lock LED Flashing** 1. Press ← or → to coarse tune, there are 8 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune.
B	***Blue Color Adjustment*** **Scroll Lock LED Flashing** 1. Press ← or → to coarse tune, there are 8 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune.
R	***Red Color Adjustment*** **Num Lock LED Flashing** 1. Press ← or → to coarse tune, there are 8 levels for adjusting. 2. Press and Hold **Shift** + ← or → to fine tune.
ESC	Escape from Video Adjustment Mode.

NOTES

1. Make sure to connect the unit and devices properly before the video adjustment
2. The video adjustment function is available on the Console Unit ONLY.
3. An alternative hotkey approach to enter Video Adjustment mode is available for users to choose as desire, in which, users can simply press the top panel push button followed by input the key **F11**. For more detailed information, please refer to the section "**Hotkey Commands**" and "**Alternative Hotkey Control**".

Computer Unit Hotkey Control

Computer Unit Hotkey Commands				Function Description
Mask Hotkey: OFF		Mask Hotkey: ON		
Hotkey	Alternative Hotkey	Hotkey	Alternative Hotkey	
Ctrl + Ctrl + Alt+E	N/A	N/A	N/A	***Cascading status selection*** One beep: enable **Standard Mode** Two beeps: enable **Compatibility Mode**, and the users at **Computer Unit** accessing to the **KVM switch** that connects to the **Computer Unit**.
[Leading Code]+Esc	N/A	N/A	N/A	***Escape from hotkey mode***
[Leading Code]+ T	N/A	N/A	N/A	***Mode selection in sequence*** Toggle switch to select Auto , Local On , or Remote On mode.
[Leading Code]+F2 (applicable in Standard Mode only)	N/A	N/A	N/A	
[Leading Code]+1	N/A	N/A	N/A	***Local mode selection*** enable the user at **Computer Unit** exclusive accessing to the PC (**KVM Switch)** that connects to **Computer Unit**. Disables the **Console Unit** user accessing.
[Leading Code]+2	N/A	N/A	N/A	***Remote mode selection*** enable the user at **Console Unit** exclusive accessing to the PC (**KVM Switch)** that connects to **Computer Unit**. Disables the user at the **Computer Unit** accessing to the connected **KVM Switch**.
[Leading Code]+3	N/A	N/A	N/A	Auto ***mode selection***
[Leading Code]+F3	[BTN]+ F3 (2 Sec.)	N/A	[BTN]+ F3 (2 Sec.)	***Latch time selection*** Auto mode latch time setting, the extender generates 1 to 4 beeps to indicate the duration of latch time: **5, 15, 30, 60** seconds respectively.
[Leading Code]+F6	[BTN]+ F6 (2 Sec.)	N/A	[BTN]+ F6 (2 Sec.)	***Privacy setting enable*** ***** enable the **Computer Unit** stopVideo Signal
[Leading Code]+F12	[BTN]+ F12 (2 Sec.)	N/A	[BTN]+ F12 (2 Sec.)	***Mouse resynchronized*** **(for PS/2 model only)**
[Leading Code]+V+4-digit code	[BTN]+V+4-digit code *(2 Sec.)*	N/A	[BTN]+V+4-digit code *(2 Sec.)*	***Video synchronization*** Prevent the video resolution setting from exceeding the capability of the connected display (require CPU reboot); the following options of video resolution are available for selecting: Input 4-digit code with 1007 for resolution of 1024 x 0768 1210 for resolution of 1280 x 1024 1612 for resolution of 1600 x 1200 1409 for resolution of 1440 x 0900 : 1910 for resolution of 1920 x 1080 1912 for resolution of 1920 x 1200 1914 for resolution of 1920 x 1440 2011 for resolution of 2048 x 1152 (see the preceding page for the complete option list)
Follow the KVM Switch User Manual (applicable in Compatibility Mode only)				***CPU port selection of KVM Switch***

NOTES

1. **Standard Mode** denotes the state of the **KVM Extender** without additional connection to any **KVM switch(es)**, and **Compatibility Mode** denotes the state of the **KVM Extender** with connection to **KVM Switch(es)**.
2. **[Leading Code]** denotes
   in **Standard Mode**, the hotkey sequence [*left* **Ctrl** + *left* **Ctrl**]
   in **Compatibility Mode**, the hotkey sequence [*left* **Ctrl** + *left* **Ctrl** + **E**]
3. **[BTN]** denotes **Press and Hold** the **Push Button** on the top panel for two seconds
4. After **Press and Hold** the Push Button two seconds, the hotkey state will be *automatically time-out,* if
   - There is no activity detected by the keyboard *within 6 seconds*.
   - Press the button **Esc** once to escape from the hotkey state.
   - Press the Push Button once to escape from the hotkey state and switch to the Auto, Local or Remote mode.